INDUSTRY-SPECIFIC INFORMATION COLLECTION REQUEST FOR THE DEVELOPMENT OF PLYWOOD AND PARTICLEBOARD MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARDS

General Survey

I. Instructions

This information request is to be completed for operations that comprise the plywood and particleboard manufacturing source category at your plant. The plywood and particleboard source category includes facilities that manufacture oriented strandboard (OSB), waferboard, hardboard, fiberboard, medium density fiberboard (MDF), particleboard (including particleboard made from straw and/or other agricultural fibers), hardwood and softwood plywood, laminated veneer lumber, and other engineered wood products. The plywood and particleboard source category may also include lumber drying kilns. Therefore, this survey is requesting information on lumber kilns which are located on the same site as (co-located with) a facility that manufactures any of the wood products mentioned above. This survey does not include stand-alone sawmill operations.

We are requesting information on operations at your facility that use or emit hazardous air pollutants (HAP's). Fill out this information request as completely as possible from existing information. At a minimum, provide information on the presence of HAP emissions. No additional monitoring or emission testing is required by your company to respond to this request. If the answer to a question is unknown (UK), unavailable (UA), or not applicable (NA), respondents should state whichever of these is applicable, rather than leaving the survey block blank.

The EPA understands that some of the requested information (e.g., annual production rates) may be considered confidential business information (CBI) by the survey respondents. As explained in the cover letter to this survey, EPA and its contractor will follow established procedures for protecting CBI. However, respondents must indicate which information in their survey responses they wish to claim as CBI. To assist the respondents, EPA has included a footnote at the bottom of each page of the survey that asks the respondent to indicate if the information entered on that page is confidential, nonconfidential, or partially confidential. Respondents that mark "partially confidential" are then asked to circle the specific responses that are considered CBI. Respondents should refer to the Enclosure 2 of the cover letter for information on what EPA considers CBI. For example, publicly available information and emissions data are not eligible for confidentiality claims.

If you have any questions regarding this request, please contact Ms. Penny Lassiter of EPA at (919) 541-5396 or by E-mail at lassiter.penny@epamail.epa.gov; Ms. Rebecca Nicholson of MRI at (919) 851-8181, Ext. 5452 or bnicholson@mriresearch.org; or Ms. Katie Hanks of MRI at (919) 851-8181, Ext. 5175 or khanks@mriresearch.org. For

your convenience, we have provided in Attachment A additional information on the scope and purpose of this survey. Respondents should read this material before attempting to complete the survey. Attachment B is a copy of an example figure and example tables for the survey. Attachment C is a copy of the HAP list from Section 112(b) of the Clean Air Act. Attachment D is a letter from Kurt Bigbee of the APA - The Engineered Wood Association to EPA. **Please note that careful review of Attachments A through D and the instructions and footnotes in the questionnaire below, may significantly reduce the amount of time needed to fill out this information request. Processes, equipment, and materials that are excluded from this survey are noted in the attachments, instructions, and footnotes.**

Return this information request and any additional information to:

Bruce C. Jordan, Director
Emission Standards Division (MD-13)
U. S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Research Triangle Park, NC 27711

Attention: Penny E. Lassiter

II. General Information

A. Name of plant: _____

B. Address of facility (mailing address and physical address if different):

_____

_____

_____

C. County where the facility is located: _____

D. Latitude and longitude coordinates of plant (see Appendix A of Attachment A - this information is available on TRI Form R and possibly on your Title V permit application):

_____

E. Name of contact(s) able to answer technical questions about the completed survey:

_____

Title(s): _____

Telephone Number(s): (_____) _____

E-mail: _____

F. Name of legal owner of plant: _____

_____

G. Name of legal operator of plant, if different from legal owner:

_____

H. Address of legal owner/operator (please specify which):

_____

_____

_____

I. Dun and Bradstreet Number:

1. Dun and Bradstreet Number for the legal owner of this plant (see facility TRI Form R): _____

2. **(Optional)** Dun and Bradstreet Number for this facility (if the facility has a Dun and Bradstreet number other than the one listed in question 1 - see facility TRI Form R): _____

J. Size of company:

1. Please indicate below the approximate number of employees **worldwide** in the business enterprise that owns this plant, including where applicable the parent company and all subsidiaries, branches, and unrelated establishments owned by the parent company.

__ <50 __ 100-249 __ 500-999 __ >1,500
__ 50-99 __ 250-499 __ 1,000-1,499

2. Please indicate below the total number of employees at all facilities located at this site.

__ <50 __ 100-249 __ 500-999 __ >1,500
__ 50-99 __ 250-499 __ 1,000-1,499

3. Please indicate below the approximate number of employees attached to the plywood/particleboard source category operations at the site.

__ <50 __ 100-249 __ 500-999 __ >1,500
__ 50-99 __ 250-499 __ 1,000-1,499

4. If the number of employees checked in question 3 is less than the number checked in question 2, please indicate the type of operations at your facility that are not related to the plywood/particleboard source category. _____

_____

_____

_____

K. Products:

1. Following is a list of standard industrial classification (SIC) codes that the EPA has identified as representing wood products plants. Please check the SIC code(s) representing your facility. (SIC codes are available on TRI Form R and in your Title V permit application.)

__ 2421 - Sawmills and Planing mills
__ 2435 - Hardwood Veneer and/or Plywood
__ 2436 - Softwood Veneer and/or Plywood
__ 2439 - Structural Wood Members Not Elsewhere Classified
__ 2493 - Reconstituted Wood Products (particleboard, MDF, OSB, etc.)
__ 2499 - Wood Products Not Elsewhere Classified
__ Other (please specify) _____

2. From the list provided below, please check the wood products manufactured at your facility.

__ Fiberboard
__ Hardboard
__ Hardwood plywood
__ Hardwood veneer
__ Laminated veneer lumber
__ Medium density fiberboard
__ Oriented strandboard
__ Particleboard
__ Softwood plywood
__ Softwood veneer
__ Kiln-dried lumber
__ Other (please specify) _____

3. For each of the products checked in question 2, please complete the chart, that follows, by estimating:

   -- percent of product used onsite or sold within the same company to manufacture other consumer products (e.g., OSB shipped to another plant owned by your company for use as I-joist web);

   -- percent of product sold for use outside of the company to manufacture other consumer products (e.g., particleboard sold to a furniture plant); and

   -- percent of product sold directly to merchants for resale to consumers (e.g., plywood sold to a hardware store).

Product (from question 2):	Percent of product used or sold within company to manufacture other products:	Percent of product used outside of company to manufacture other products:	Percent of product sold directly to merchants:
Example: Particleboard	*None*	*40%*	*60%*

4. Please provide the range of board densities (lb/ft^3) and thicknesses (in.) manufactured at your plant for each of the reconstituted wood products (e.g., fiberboard, particleboard, OSB) checked in question 2 above. Do not include lumber.

_____

_____

_____

The information on this page is: ☐ Nonconfidential ☐ Confidential

☐ Partially confidential (please circle confidential responses)

5. Please fill in the lines below for 1997 if your plant manufactures both veneer and plywood:

   Example: <u>100</u> percent of the veneer dried at the plant is used to manufacture plywood at the plant.

   ___ percent of the veneer dried at the plant is used to manufacture plywood at the plant.

   ___ percent of the veneer dried at the plant is sold or transported offsite rather than used to manufacture plywood at the plant.

   ___ percent of dried veneer is purchased from off-site sources.

6. If your plant manufactures hardwood plywood, please list the types of substrates (cores) used to manufacture hardwood plywood at your plant. _____

   _____

   _____

   _____

7. Please list the known major markets (such as furniture manufacture, marine vessels, housing, etc.) for the products manufactured at your plant (checked in question 2 above).

   _____

   _____

   _____

III. Plant Operations and Process Flow Diagrams

A. Complete Table 1 for the most recent calendar year (i.e., 1997, unless the respondent can justify selection of an alternate base year) for all processes at your plant that are covered by the plywood/particleboard source category (except for sawmill operations). (If any or all of the production lines began operation after January 1, 1997, please see Attachment A, Section III.) For each process line listed in Table 1, provide a process flow diagram that includes all unit operations and indicate on the diagram all sources of air emissions. If your facility's processes are not easily described along process lines, you may wish to break up your flow diagram into separate "process areas." (See instructions in Attachment A, Section III.) Some examples of process areas are as follows:

Process area:	**Description**:
Green end	All processes from receiving to drying (e.g., raw material storage, truck dumps, log yards, debarking, peeling, sawing, waferizing, refining, hammermilling, green screening, log vats, digesters, etc.)
Drying	All processes from drying to blending and/or forming or layup (e.g., drying, dry screening, dry material storage, etc.)
Forming and pressing	All processes from dry wood storage to pressing and cooling (e.g., blending, forming, pre-pressing, pressing, board cooling, press preheating, lay up, wax/resin/catalyst/additive addition points, chemical storage tanks, etc.)
Finishing	All processes after pressing or board cooling (e.g., trimming, sanding sawing, edge sealing, strapping, storage, humidification, coating, etc.)

Use the same terminology/codes in identifying unit operations in your process flow diagram(s) as you will use in completing the remainder of this questionnaire. If you prepared a similar diagram(s) for your State air permit or Title V permit application, you may submit that diagram rather than preparing a new diagram (but be sure to include a list of the terminology/codes used to identify unit operations in the diagram).

B. Please indicate if there are any expansions, additions of production equipment, or control device modifications formally approved in the corporate budget for the facility in the future (i.e., in the next 5 years). Such information is necessary in order for the EPA to conduct the MACT analysis and estimate cost and environmental impacts of the standards.

_____

_____

_____

_____

_____

_____

IV. HAP's--Usage and Emissions

A. Resins/Adhesives/Additives and Miscellaneous Processes Associated with Plywood and Particleboard Source Category:

1. Usage and Formulation Data for Resins/Adhesives/Additives: **(Plants that manufacture veneer only [i.e., veneer plants that do not make plywood] may skip this question and Tables 2-A through 2-B.)** Complete Table 2-A for each type of resin/adhesive or additive (e.g., formaldehyde scavenger, wax, etc.) used at the facility for manufacturing of wood products covered under the plywood/particleboard standards. Do not include adhesives/resins or additives

used for mill trials lasting less than 5 days or for any surface coating, printing, or laminating of films over wood panels. Usage data should be based on 1997 levels. Complete Table 2-B only for resin/adhesive/additive storage tanks located on the plant site that store HAP-containing liquids.

2. Miscellaneous Processes Associated with Plywood and Particleboard Source Category: Using Table 2-C, please identify those miscellaneous coating/finishing processes listed in Table 2-C that apply to your facility, the type of material that is used in each applicable process, and the amount of material consumed in each applicable process.

B. Complete a separate Table 3-A for each process line identified on Table 1. Each unit operation that is a source of HAP emissions should be listed in Table 3-A. Examples of unit operations that are potential sources of HAP emissions include: digesters, blenders, forming machines, dryers, presses, board coolers, etc. Emission sources such as sanding and sawing operations and pneumatic conveying systems for wood material should NOT be listed in Table 3-A. Also, do not include boilers, thermal oil heaters, or other combustion devices that will be covered under the EPA's Industrial Combustion Coordinated Rulemaking (ICCR); combustion units covered under ICCR are those with exhaust streams that do not come into contact with wood product or process exhausts (see Attachment A for examples). If the exhaust gas flowrates from some unit operations are unknown or cannot be accurately estimated, write "not available" in the flow rate column. Ranges of flow rates or moisture contents can be listed for sources with variable flows and moisture contents.

C. Emission Test Data:

1. Have any emission sources at your facility been tested for HAP's since *January 1, 1995* ? (Check one)

__ Yes *(Continue with Question 2, below.)*
__ No *(Skip to Section IV.D, below.)*

2. Using multiple copies of Table 3-B, identify each emission point that has been tested for HAP's since January 1, 1995 (e.g., "Tube dryer No. 3"); describe the sampling location (e.g., "after the wet ESP"); provide the month and year when the tests took place; specify which pollutants were tested; and list the source test methods used to measure each pollutant (e.g., EPA test method No. 25A).

3. Do the test report(s) include process data (e.g., dryer throughput) such that emission factors could be developed that relate emissions to process parameters such as production? (Check one)

   __ Yes *(Continue with Question 4, below.)*
   __ Some do, some don't *(Continue with Question 4, below.)*
   __ No *(Skip to Section IV.D, below. A copy of the test report is not required at this time, but may be requested at a later date.)*

4. Have the results of the HAP emissions tests performed since January 1, 1995 been submitted to (please check) :

   a. EPA? ____Yes ____No
      If yes, list EPA Division/contact name: _____

   b. NCASI? ____Yes ____No

   If the answers to Questions 4a and 4b are both "No," please submit a complete copy of the test report(s) with your response to this survey.

   If the answer to either Question 4a or 4b is "Yes," a copy of the test report(s) is not required at this time, but may be requested at a later date.

D. Complete Tables 4-A through 4-F for each of the wood dryers (including predryers) and any co-located lumber kilns at the facility. If any of the dryers share an air pollution control device please describe and indicate dryer ID numbers (supplied in the process flow diagram).

_____

_____

_____

_____

_____

_____

E. Complete Table 5 for each of the combustion units which exhaust through direct-fired dryers, kilns, or heaters at the facility, and for combustion units that receive exhaust from a processing unit (e.g., burners using recirculated dryer exhaust as combustion air).

F. Complete Table 6 for each of the hot presses at the facility. If other than hot pressing, what process is used to cure adhesive in wood products manufactured at the plant (check all that apply)?

__ room temperature press __ heated clamps

__ infrared tunnel __ oven

__ radio frequency press __ other (specify _____)

G. Complete Table 7 for any air pollution control equipment identified in Table 3-A. (Do not supply information for PM and wood collection devices [e.g., cyclones, baghouses, etc.] that were not listed in Table 3-A.) Please provide the actual operating parameters for control equipment; if not available, then specify that the parameter is a design parameter with a letter "D" (i.e., "10 in. H_2O-D") and record the value.

H. Complete Table 8-A for each of the unit operations listed in Table 3-A that generate process water or wastewater and for each of the air pollution control devices listed in Table 7 that generate wastewater (e.g., wet scrubbers, WESP's, and biofilters). Include in Table 8-A any wastewater that is generated from regular maintenance (e.g., washing out) of control devices. Do not include storm water or domestic wastewater in Table 8-A. Complete Table 8-B for each of the process water or wastewater sources (e.g., unit operations or control devices) listed in Table 8-A.

V. Research and Development

A. Are research and development (R&D) activities conducted at the facility? "Research and development" is defined as "research and development into new processes and products, where the R&D is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a *de minimis* manner. For example, R&D could include bench scale laboratory work, pilot plants, equipment testing, testing on the production line where the specific purpose of the testing is to create or improve processes and products, and the use of batch processes run for experimental purposes. Please answer yes if any activities conducted at the facility could be considered R&D, even if the activities are a small part of the total operations. If you believe the answer is no, but are not sure, answer unsure, may be R&D.

__ Yes __ No __ Unsure, may be R&D

B. If the answer to question A above is yes or unsure, briefly and qualitatively describe the R&D activities (or activities you believe may be R&D) and their purpose. This should be a paragraph or so description.

VI. Surface Coating and Laminating Operations

If you completed the recent information collection request for the Flat Wood Paneling (Wood Building Products) MACT, you may skip this section on surface coating and laminating operations.

A. Is any surface coating or laminating of wood products conducted at your facility? If so, please describe what is being coated and the types of coatings or laminates that are applied. Please indicate if any of the coatings or adhesives are organic solvent-based. Do not include any coating that is used in amounts of less than 500 gallons per year. Also, do not include items you already mentioned in Table 2-C.

B. Are any air pollution controls applied to reduce emissions from the surface coating/laminating operations? If so, please describe.

VII. Miscellaneous (Optional)

A. Describe any factors not addressed in the above questions that might serve to distinguish your facility from others in this source category for purposes of developing a separate source category or subcategory and MACT standards.

B. Are there any processes not covered under this questionnaire (e.g., wood treatment) that are directly related to the manufacture of the products checked in question II.K above which use or emit HAP? If so, please describe the processes below.

VIII. Factors That Affect HAP Emission Reductions (Optional)

Completion of Section VIII is optional. If you choose to respond, clearly distinguish between pollution reduction and source reduction measures. Pollution reduction measures alter the physical, chemical, or biological characteristics or the volume of a HAP through a process or activity which itself is not integral to and necessary to produce a product or provide a service. The use of "add-on" devices to capture and control (recover or destroy) HAP emissions are considered pollution reduction measures. In contrast, source reduction measures reduce the amount of any HAP prior to recycling, treatment, or disposal. Source reduction measures include equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control.

A. For each unit operation for which pollution reduction or source reduction measures have resulted in a decrease in HAP emissions since 1987, provide the following information.

1. Name of unit operation: _____

2. Type of control or description of process change:

B. If any control or process change described in Question A above was instituted as a result of new source review requirements pursuant to 40 CFR 51.160, Subpart I, Review of New Sources and Modifications, provide the date at which the lowest achievable emission rate (LAER) came into effect:

C. If recovery or recycling of feedstocks is used to reduce HAP emissions, quantify the effect of the program (e.g., estimated annual purchase of feedstock in the absence of recovery/recycling compared to actual annual purchase):

D. Are you aware of any alternative processes (feedstock substitutions or eliminations) or control devices which reduce HAP emissions that could result in fewer impacts between environmental media (water, air, and land) or reduced total release to all environmental media (e.g., reduced wastewater or solid waste)? Discuss whether these processes could be adapted to the plywood/particleboard source category and any experience you have with them.

TABLE 1. SUMMARY OF PROCESS LINES FOR PLYWOOD/PARTICLEBOARD SOURCE CATEGORY

Process lines using and/or emitting HAP's[a]	Average annual gross production, MSF/yr[b]	Operating cycle		Maximum annual production capacity, MSF/yr[d]	Production basis, ___-inch[e]
		hr/d	hr/yr[c]		

[a]Process lines refer to each process that starts with raw materials and ends with a finished product; production information refers only to the finished product (e.g., plywood).

[b]Gross production includes net production plus rejected material which is processed but is unsuitable for sale.

[c]Provide operating hr/yr excluding any planned or unplanned shutdowns for maintenance, repairs, holidays, etc.

[d]MSF/yr - thousand square feet per year

[e]Please use the following bases: 1/8-inch for hardboard , 1/4-inch for hardwood plywood, 3/8-inch for OSB, softwood veneer, and softwood plywood, ½-inch for fiberboard, and 3/4-inch for MDF and particleboard. Please indicate the basis used for hardwood veneer.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 2-A. FORMULATION AND CONSUMPTION OF ADHESIVES, RESINS, AND ADDITIVES

Process line (from Table 1)	Resin/adhesive or additive type[a]	Range in percent solids by weight[b]	Density, lb/gal[b]	Total annual usage[c]	Range in HAP content and percent by weight[d]

[a]List only major resin/adhesive or additive types for each product. A range in percent solids and HAP content is requested to account for any seasonal variations in resin/adhesives or additives.

[b]Complete this column for liquid resins only (1 g/cm^3 = 8.3452 lb/gal)

[c]Indicate total annual resin usage (i.e., amount of resin used including water and solids). Please specify units (e.g., ton/yr or gal/yr)

[d]Be sure to report the free formaldehyde content for resins containing formaldehyde; report the phenol content for phenol-formaldehyde and phenol-resorcinol -formaldehyde resins. Report the methyl diphenyl diisocyanate (MDI) content for MDI resins. For other additives, report the percent HAP by weight (if any).

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 2-B. INFORMATION ON RESIN/ADHESIVE/ADDITIVE STORAGE TANKS

STORAGE TANKS	TANK ID: _____	TANK ID: _____	TANK ID: _____
Type of tank[a]			
Tank capacity, gal			
Annual throughput, (provide units)[b]			
Tank contents (list resin/additive type as specified in Table 2-A)			
If floating roof used, type of seal[c]			
Uncontrolled emissions from tank, tons/yr (list pollutants and emissions)			
Type of vapor recovery system used (if any)[d]			
Controlled emissions from tank, tons/yr (list pollutants and emissions)			

[a]FR =fixed roof, EFR = external floating roof, IFR = internal floating roof. Use abbreviations.
[b]Provide the actual throughput in 1997.
[c]Use abbreviations. Mechanical shoe primary seal (MS1), MS1 with shoe mounted secondary (MS2), MS1 with rim mounted secondary (MS3), liquid mounted primary seal (LM1), LM1 with rim mounted secondary (LM2), vapor mounted primary seal (VM1), VM1 with rim mounted secondary (VM2).
[d]Indicate whether a vapor recovery system (absorbers, adsorbers, or condensation) is used.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 2-C. MISCELLANEOUS PROCESSES ASSOCIATED WITH THE PLYWOOD AND PARTICLEBOARD SOURCE CATEGORY[a]

Description of Process	Process performed onsite at this facility? (Yes/No)	Type of Material Used in Process[b]	1997 Consumption of Material Used in Process *(include applicable units)*
Edge seals applied to a reconstituted wood product or plywood			
Anti-skid coatings applied to reconstituted wood products			
Primers applied to OSB siding			
Manufacture of high or medium density overlay (HDO or MDO) panels			
Painting of company logo, information on plywood or reconstituted wood products			
Application of trademarks and grade stamp to reconstituted wood products or plywood			
Application of nail lines to reconstituted wood products or plywood			
Synthetic patches applied to plywood			
Wood patches applied to plywood			
Wood putty applied to plywood			
Application of concrete forming oil to plywood			
Veneer composing			
Application of shelving edge fillers to reconstituted wood products			
Fire retardants applied to reconstituted wood products prior to or during the forming process (e.g., added in with the resin).			
Other (please describe):[c]			
Other (please describe):[c]			

[a] Please refer to Attachment D, letter from Kurt Bigbee of the APA's Engineered Wood Products Division, to Paul Almodovar, EPA, regarding miscellaneous coating/finishing processes at reconstituted wood products and plywood manufacturing facilities that should be considered under the plywood and particleboard source category. For the purposes of this survey, "reconstituted wood products" means any product made from mixing wood fiber, particles, or flakes with a resin/adhesive and pressing that mixture into a board (e.g., OSB, particleboard, fiberboard, MDF, hardboard, etc.).

[b] Type of material refers to the type of coating/filler/finishing product that is applied to the reconstituted wood product or plywood (e.g., "water base latex paint").

[c] Please list any additional coating/finishing processes at your facility that are associated with the plywood and particleboard manufacturing source category and indicate to the side whether you believe this process should be covered under the plywood/particleboard rulemaking or the Flat Wood Panel Coating MACT (also known as the "Wood Building Products NESHAP").

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 3-A. SOURCE EXHAUST GAS CHARACTERISTICS[a]

Process Line (from Table 1): _____

1	2	3	4
Unit Operation/Emission Point	Average flow rate of gas stream, acfm @ ^{o}F[b]	Percent moisture (by volume) in gas stream	Control device/method[c]

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Provide gas flow in acfm and specify temperature.
[c]Enter "none" if no control device or method is used. If multiple control devices are applied to an emissions stream, please list them in order. If the same control device treats multiple streams or exhaust from multiple process units, please note that in the table.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 3-B. EMISSIONS DATA COLLECTED SINCE JANUARY 1, 1995[a]

TEST DATA	Test date: _____		Test date: _____		Test date: _____	
Name of unit operation or emission point tested						
Sampling location(s)[b]						
Pollutants (check pollutants tested and indicate test method used)	✓	Test Method Used	✓	Test Method Used	✓	Test Method Used
Methanol						
Formaldehyde						
Phenol						
Acetaldehyde						
Other HAP's (list below)						
PM/PM_{10}[c]						
VOC/THC[c]						

[a] Make additional copies of this table as needed.

[b] Sampling location refers to the point(s) at which the emissions were measured (e.g., before the wet electrostatic precipitator [WESP], directly after the product cyclone, etc.).

[c] For the purposes of Table 3-B, only those particulate matter (PM), volatile organic compound (VOC), and total hydrocarbon (THC) data that were measured concurrently with the HAP emissions test should be listed.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 4-A. ROTARY DRYERS

ROTARY DRYERS	DRYER ID ____	DRYER ID ____	DRYER ID ____
Process line (from Table 1)			
Year Installed			
1997 dryer throughput, ODT/yr			
1997 dryer furnish: average percent hardwood, % average percent softwood, %			
Range in furnish moisture content, % dry basis At dryer inlet At dryer outlet			
Firing method: Direct-fired (enter combustion unit ID) or indirect-fired			
Number of passes: single-pass, triple-pass			
Operating temperature range, ^{O}F: Dryer inlet Dryer outlet			
Are exhaust gases from the dryer recycled in any manner? If yes, indicate the following: - Percent recycled to blend chamber - Percent routed to combustion unit - Percent exhausted directly to atmosphere or to control device - Other percent (specify use)			

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 4-B. TUBE DRYERS

TUBE DRYERS	DRYER ID ____	DRYER ID ____	DRYER ID ____
Process line (from Table 1)			
Year Installed			
1997 Dryer throughput, oven dry tons per year (ODT/yr)			
Firing method: Direct-fired (enter combustion unit ID) or indirect-fired			
1997 dryer furnish: average percent hardwood, % average percent softwood, %			
Range in furnish moisture content, % dry basis At dryer inlet At dryer outlet			
Operating temperatures, ^{O}F: Dryer inlet Dryer outlet			
Tube length, ft			
Are resins or waxes added to furnish prior to drying (If yes, indicate what is applied - i.e., resin and/or wax)			
Are exhaust gases from the dryer recycled in any manner? If yes, indicate the following: Percent recycled to blend chamber Percent routed to combustion unit Percent exhausted directly to atmosphere Other percent (specify use)			

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 4-C. HARDBOARD BAKE/HUMIDIFICATION OVENS

HARDBOARD BAKE/HUMIDIFICATION OVENS	DRYER ID _____	DRYER ID _____	DRYER ID _____
Process line (from Table 1)			
Year Installed			
Length of bake cycle, hours			
Length of humidification cycle, hours			
1997 oven throughput, (provide units)			
Oven operating temperature range, ^{o}F:			
Firing method: Direct-fired (enter combustion unit ID) or indirect-fired			

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 4-D. VENEER DRYERS

VENEER DRYERS	DRYER ID _____	DRYER ID _____	DRYER ID _____
Process line (from Table 1)			
Year Installed			
1997 dryer throughput, **d**-inch basis			
1997 dryer furnish: average percent hardwood, % average percent softwood, %			
Firing method: Direct-fired (enter combustion unit ID), indirect-fired, or other (please explain)			
Dryer type: longitudinal, jet, or other (specify)			
Number of decks			
Number of zones			
Number of doors or sections			
Target veneer dryness (% moisture, dry basis)			
Dryer operating temperature range, ^{o}F: Zone 1 Zone 2 Zone 3			

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 4-E. CONVEYOR DRYERS

CONVEYOR DRYERS	DRYER ID —	DRYER ID —	DRYER ID —
Process line (from Table 1)			
Year Installed			
1997 dryer throughput, OD ton/yr			
1997 dryer furnish: average percent hardwood, % average percent softwood, %			
Range in furnish moisture content, % dry basis At dryer inlet At dryer outlet			
Number of zones and total length per zone, ft			
Operating temperature range, ^{O}F: Dryer inlet Dryer outlet			
Are exhaust gases from any of the zones of the dryer recycled in any manner? If yes, indicate the following: - Zones from which exhaust is recycled - Percent recycled to blend chamber - Percent routed to combustion unit - Percent exhausted directly to atmosphere or to control device - Other percent (specify use)			

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 4-F. CO-LOCATED LUMBER KILNS

LUMBER KILNS	KILN ID —	KILN ID —	KILN ID —
1997 kiln throughput, MBF/yr[a]			
Year Installed			
Number of cycles per year			
1997 kiln furnish: average percent hardwood, % average percent softwood, %			
Firing method: Direct-fired (enter combustion unit ID) or indirect-fired			
Range in lumber moisture: green lumber, % moisture, dry basis dried lumber, % moisture, dry basis			
Range of kiln drying cycle length, hr			
Total number of vents			
Are exhaust gases from the kiln recycled in any manner? If yes, indicate the following: Percent recycled to a blend chamber Percent routed to combustion unit Percent exhausted directly to atmosphere Other percent (specify use)			
Does the kiln have an air pollution control device or method (Yes/No)[b]			

[a]MBF/yr - thousand board feet per year

[b]If the kiln has an air pollution control device or method of air pollution control, please list it in Table 7.

TABLE 5. BURNERS AND COMBUSTION UNITS WHICH SUPPLY COMBUSTION GASES TO DIRECT-FIRED DRYERS AND OTHER DIRECT-FIRED UNIT OPERATIONS

BURNERS AND COMBUSTION UNITS	COMBUSTION UNIT ID _____	COMBUSTION UNIT ID _____	COMBUSTION UNIT ID _____
Process line (from Table 1)			
Year Installed			
Burner type (e.g., suspension, wet cell, recirculation, gasifier, grate, etc.)			
Provide the dryer ID (or ID's of other unit operations) that receive direct-fired combustion gases from this combustion unit			
Fuels used in 1997 (choose from list below) - Resin free wood, sawdust, or bark - Trim/sawdust containing resin - Sanderdust containing resin - Natural gas - Propane - Residual/distillate oil - Other (specify)			
Design heat input capacity for primary fuel (MMBtu/hr[a])			
Percentage of combustion gases from the combustion unit vented directly to the atmosphere without first passing through a wood dryer or thermal oil heating system			
If the combustion unit receives exhaust from a processing unit, indicate the process unit ID(s)[b]			

[a]MMBtu/hr - Million British thermal units per hour

[b]Table 7 (Exhaust Circulated Through a Combustion Unit) should be completed for each combustion unit that receives process exhaust

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 6. HOT PRESSES USED TO CURE RESINS AND ASSOCIATED BOARD COOLERS

PRESSES	PRESS ID _____	PRESS ID _____	PRESS ID _____
Process line (from Table 1)			
Year Installed			
Length (or range) of pressing cycle, min[a]			
Board thickness range, in.			
Inlet board moisture content range, % dry basis			
1997 press throughput, (provide units)			
Operating temperature range, ^{o}F:			
Number of openings			
Opening size (length x width, ft)			
Press heating method: hot oil, steam, or other (specify)			
Is the press totally enclosed? (yes/no - If yes please describe and provide an estimate of the exhaust flow rate from the enclosure)			
Number of board coolers			
Number and square footage of panels held in the board cooler(s)			
Approximately how long does each panel reside in the board cooler(s)			
What percentage of panels discharged from the press bypass the board cooler(s), %			
Are the board cooler(s) totally enclosed? (yes/no - if yes please describe and provide an estimate of the exhaust flow rate from the enclosure)			

[a]If press is continuous, please indicate "continuous" in the column to the right and skip questions on number of openings and opening size.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS[a]

CONTROL METHOD: EXHAUST CIRCULATED THROUGH COMBUSTION UNIT[b]	COMBUSTION UNIT ID _____		COMBUSTION UNIT ID _____		COMBUSTION UNIT ID _____	
Unit operations controlled (ID Nos.)						
Exhaust gas flow from unit operation(s) controlled by combustion unit, acfm @ ^{o}F[c]						
Volume percent of total exhaust from affected unit operation(s) used as inlet air to the combustion unit, %[d]						
If the answer to the above question is less than 100%, where does the remainder of the exhaust from the unit operation(s) go (e.g., through a multiclone, to the atmosphere)?						
If volume percent of exhaust circulated through combustion unit varies, list the parameters (e.g., moisture, temperature) that affect the amount of exhaust going to the combustion unit.						
Exhaust gas temperature (at inlet to combustion unit), °F						
Actual pollutant removal efficiency (if known)[e] PM VOC HAP Other pollutant (specify)						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency

[a] Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").

[b] Combustion units include boilers, burners, etc. (which should have been listed in Table 5). Do not include RTO, RCO, or TCO controls in this table. A separate table is provided below for RTO, RCO, and TCO control devices.

[c] If air flow rate is different than response in Table 3-A, column 2 please explain. Provide flow rate in acfm and specify temperature.

[d] This data is used to determine the amount of exhaust from a unit operation that is controlled by incineration.

[e] Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS, CONTINUED[a]

CONTROL DEVICE: SCRUBBER	CONTROL DEVICE ID ____		CONTROL DEVICE ID ____		CONTROL DEVICE ID ____	
Unit operations controlled (ID Nos.)						
Type of scrubber: spray quench, venturi, packed bed, impingement, or other (specify)						
Manufacturer and model number						
Year installed						
Exhaust gas flow at scrubber inlet, acfm @ ^{o}F						
Type of packing material						
Packing material depth (ft)						
Pressure drop, in. H_2O						
Liquid-to-gas ratio, gal/10^3 acfm						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency
Inlet scrubbing liquor source of liquor (e.g., pond water) pH percent solids type of alkali added, if any alkali addition rate (lbs/gal)						
Scrubber liquor recirculation rate, gal/min						
Blowdown generation rate, gal/min[b]						
Actual pollutant removal efficiency (if known)[c] PM VOC HAP Other pollutant (specify)						
Frequency of packing material replacement (indicate is packing material replacement is partial or complete) Method of disposal						

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Please provide the wastewater information requested in Tables 8-A and 8-B for this wastewater stream.
[c]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS, CONTINUED[a]

CONTROL DEVICE: BAGHOUSE	CONTROL DEVICE ID ____		CONTROL DEVICE ID ____		CONTROL DEVICE ID ____	
Unit operations controlled (ID Nos.)						
Manufacturer and model number						
Year installed						
Exhaust gas flow at baghouse inlet, acfm @ ^{o}F						
Bag material, weight, and coating (if any)						
Cleaning method and frequency						
Air to cloth ratio, acfm/ft^2						
Pressure drop across baghouse, in. H_2O						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency
Actual PM removal efficiency (if known)[b]						
Solid material collected (provide only if material not reused onsite), lb/yr End use/method of disposal						

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS, CONTINUED[a]

CONTROL DEVICE: DRY ELECTROSTATIC PRECIPITATOR	CONTROL DEVICE ID ____		CONTROL DEVICE ID ____		CONTROL DEVICE ID ____	
Unit operations controlled (ID Nos.)						
Manufacturer and model number						
Year installed						
Exhaust gas flow at ESP inlet, acfm @ ^{o}F						
Particle resistivity, ohm-centimeter						
Specific collection area, ft^2/1,000 acfm						
Conditioning agents used (sulfur trioxide, sodium compounds, etc.)						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency
Actual PM removal efficiency (if known)[b]						
Cleaning method and frequency						
Solid material collected (provide only if material not reused onsite), lb/yr End use/method of disposal						

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS, CONTINUED[a]

CONTROL DEVICE: WET ELECTROSTATIC PRECIPITATOR	CONTROL DEVICE ID ____		CONTROL DEVICE ID ____		CONTROL DEVICE ID ____	
Unit operations controlled (ID Nos.)						
Manufacturer and model number						
Year installed						
Type of liquid used (e.g., pond water, recirculated)						
Exhaust gas flow at WESP inlet, acfm @ ^{o}F						
Is WESP preceded by a quench chamber (yes/no - if yes complete scrubber section above for the quench)						
Specific collection area, ft^2/1,000 acfm						
Cleaning method and frequency						
Water recirculation rate, gal/min						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency
Actual pollutant removal efficiency (if known)[c] PM VOC HAP Other pollutant (specify)						
Blowdown generated, gal/min[b]						

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Please provide the wastewater information requested in Tables 8-A and 8-B for this wastewater stream.
[c]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS, CONTINUED[a]

CONTROL DEVICE: INCINERATION	CONTROL DEVICE ID ____		CONTROL DEVICE ID ____		CONTROL DEVICE ID ____	
Unit operations controlled (ID Nos.)						
Manufacturer and model number						
Year installed						
Particulate removal device preceding incineration device						
Type: thermal, catalytic or other (specify)						
Type of packing material (e.g., ceramic saddles, catalytic media, etc.)						
Number of canisters						
Inlet gas stream characteristics flow rate, acfm @ ^{o}F moisture content, percent (by volume)						
Target combustion chamber temperature, °F (please note if temperature measurement is not in chamber)						
1997 annual fuel use: list fuel type and usage (provide units)						
System static pressure range, in. H_2O						
Nominal residence time, sec						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency
Actual pollutant removal efficiency (if known)[b] PM VOC HAP Other pollutant (specify)						
Percent heat recovery (indicate percent recuperative and percent regenerative)						

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS, CONTINUED[a]

CONTROL DEVICE: INCINERATION	CONTROL DEVICE ID ____	CONTROL DEVICE ID ____	CONTROL DEVICE ID ____
If NO_X controls are used, specify type (e.g., ammonia injection)			
Frequency of bakeouts			
Frequency of washouts			
Wastewater generated during wash outs, gal/yr[c]			
Frequency of packing material replacement (indicate if packing replacement is partial or complete) and method of disposal			

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.
[c]Please provide the wastewater information requested in Tables 8-A and 8-B for this wastewater stream.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS[a]

CONTROL DEVICE: CYCLONES (excluding primary/product separation cyclones) AND MULTICLONES	CONTROL DEVICE ID ____	CONTROL DEVICE ID ____	CONTROL DEVICE ID ____
Unit operations controlled (ID Nos.)			
Manufacturer and model number			
Year installed			
Number of tubes (enter 1 for cyclone)			
Tube diameter, in.			
Range of particle size entering control device, μm			
Pressure drop, in. H_2O			
Exhaust gas flow at cyclone/multiclone inlet, acfm @ ^oF			
Actual PM removal efficiency (if known)[b]			
Solid material collected (provide only if material not reused onsite), lb/yr End use/method of disposal			

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS[a]

CONTROL DEVICE: GRAVEL BED, ELECTRIFIED FILTER BED, OR SAND FILTER	CONTROL DEVICE ID _____		CONTROL DEVICE ID _____		CONTROL DEVICE ID _____	
Unit operations controlled (ID Nos.)						
Manufacturer and model number						
Year installed						
Electrified or nonelectrified						
Exhaust gas flow at filter bed inlet, acfm @ ^{o}F						
Pressure drop, in. H_2O						
Filter bed volume, ft^3						
Number of filters						
Permit-required parameter monitoring and frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency
Actual pollutant removal efficiency (if)[b] PM VOC HAP Other pollutant (specify)						
Solid material collected (provide only if material not reused onsite), lb/yr End use/method of disposal						

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS[a]

CONTROL DEVICE: BIOFILTER	CONTROL DEVICE ID ____		CONTROL DEVICE ID ____		CONTROL DEVICE ID ____	
Unit operations controlled (ID Nos.)						
Manufacturer and model number						
Year installed						
Time from biofilter start-up to full pollutant reduction efficiency						
Inlet gas: Exhaust gas flow at biofilter inlet, acfm @ ^{o}F Average percent moisture, % (by volume)						
Is biofilter preceded by a pretreatment system such as a humidification or partial scrubber (yes/no - if yes complete scrubber section above)						
Pressure drop, in. H_2O						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency
Number of beds/towers						
Type of media (e.g., bark, hardwood chips, synthetic plastic packing)						
Bed/tower size						
Frequency of media replacement						
Bed temperature, ^{o}F						
pH of effluent						
Bed contact time (i.e., volume of media/air flow rate to module), sec						
Actual pollutant removal efficiency (if)[b] PM VOC HAP Other pollutant (specify)						
Water recirculation rate, gal/min						
Waste water generated, gal/min[c]						
Solid waste generated, ft^3/yr Method of disposal						

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.
[c]Please provide the wastewater information requested in Tables 8-A and 8-B for this wastewater stream.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 7. AIR POLLUTION CAPTURE SYSTEM AND CONTROL EQUIPMENT PARAMETERS[a]

CONTROL DEVICE: OTHER CONTROL DEVICE (list important operating parameters and waste generation rate on the lines below)	CONTROL DEVICE ID ____		CONTROL DEVICE ID ____		CONTROL DEVICE ID ____	
Unit operations controlled (ID Nos.)						
Manufacturer and model number						
Year installed						
Type of control device						
Exhaust gas flow at control device inlet, acfm @ ^{o}F						
Pressure drop, in. H_2O						
Actual pollutant removal efficiency (if)[b] PM VOC HAP Other pollutant (specify)						
Permit-required parameter monitoring and monitoring frequency	Parameter	Frequency	Parameter	Frequency	Parameter	Frequency

[a]Please provide actual operating parameters; if not available, then specify that the parameter is a design parameter with the letter "D" (i.e., "10,000 acfm-D").
[b]Do not list vendor guaranteed pollutant removal efficiencies. List only information that is based on actual test data at your facility.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 8-A. PROCESS WATER/WASTEWATER INFORMATION

1	2	3	4
Source of Process Water/Wastewater	Total Flow Rate, gal/yr	Has process water/wastewater been tested for volatile HAP's? (Yes/No)	If answer to column 3 is "Yes", provide HAP concentration in water[a]

[a]Provide data based upon analytical test results.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)

TABLE 8-B. WASTEWATER HANDLING AND TREATMENT INFORMATION[a]

Wastewater Handling and Treatment Unit	Unit ID[b]: _____	Unit ID[b]: _____	Unit ID[b]: _____	Unit ID[b]: _____
Ponds and Basins: Dimensions (length x width x depth), ft Residence time (days) Annual throughput, gal/yr Mechanical aeration (yes/no) - aerator type (surface or diffused) - number of aerators - horsepower of aerators - mixed liquor volatile suspended solids (for biological units)				
Wastewater Storage Tanks Tank capacity, gal Annual throughput, gal/yr				
Steam Strippers Wastewater feed, gal/min Steam feed, gal/min Pressure drop, atm Wastewater feed tank capacity, gal				
Percent recycled (e.g., recycle for log conditioning), volume %				
Final disposition (e.g., municipal treatment facility, spray irrigation, etc.)				

[a]For each unit, complete the information for the rows that apply. If not applicable, indicate "N/A."
[b]Use same ID's as shown on diagram(s) prepared under Section III.A.

The information on this page is: ☐ Nonconfidential ☐ Confidential ☐ Partially confidential (please circle confidential responses)